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## ABSTRACT

This paper briefly addresses critical issues in documenting studies of the effectiveness of inclusive education for students with disabilities and includes a summary table of the existing literature and guidelines for problem solving about inclusion. The importance of sound methodology in documenting effects of inclusion and the dangers of value judgments regarding placements are stressed. Ten parameters that investigations of inclusion should cover are outlined, including achievement gains, social skill growth, opportunities for social integration, attendance, time on task, extent to which practices are embedded in routines, fidelity of practices, quality of Individualized Education Programs, longitudinal focus, and extent of parent participation. Attached are: a matrix summarizing results of 12 inclusion effectiveness studies; an outline of principles of brainstorming; a summary of steps involved in using creative problem solving to define and measure inclusion; and a listing of ideas concerning measurement of inclusion efforts, generated at two brainstorming sessions. (Contains 9 references.)  
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## **Documenting Your Inclusion Efforts**

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### Defining and Measuring Inclusion

For many practitioners, inclusion is a term that is largely defined by placement in the general education classroom (Anderegg & Vergason, 1990). Nonetheless, numerous other sources specify the nature of the processes and outcomes that can be achieved through placement in the general education classroom (Rogers, 1993, Sailor, 1991). Unfortunately, lack of consistent definitions and descriptions of pre- and post-inclusion measures as well as a lack of pre- and post-measures of achievement, social skill growth, and attitude changes complicate the picture even further. Although many advocates describe inclusion as a process (Stainback & Stainback, 1990), the field of special education has experienced tremendous difficulty in measuring the effectiveness of a moving target. Consequently, a few researchers (Zigmond, Jenkins, Fuchs, Deno, Fuchs, Baker, Jenkins, & Couthino, 1995) have established their own criteria for the success of students in inclusive (or mainstreamed) classrooms. Many professionals are left to decide on their own whether measures that show "as good as" growth in the special class are to be pursued or rejected. Just how much better or how much growth needs to occur before we can agree that success in the general education classroom has occurred?

The field has learned from the methodological errors of the efficacy studies (Goldstein, Moss, & Jordan, 1965) that single measures of "success" produce questionable validity. There is a need to delineate the success measures for research purposes but most certainly for practitioners. Achievement (mean achievement gains, months of achievement gain, comparisons of achievement gains) is one measure. Although one critically important measure, these data are not routinely reported in publications. Satisfaction or perception (student satisfaction, teacher satisfaction, parent satisfaction) is also one measure. Satisfaction is not considered to be as robust a measure as achievement; but it is an important measure. Attendance, social growth, costs, numbers and types of pull-out programs, numbers and types of modifications, happiness, and quality of IEPs have all been researched to demonstrate the effectiveness of inclusive practices. Although positive increases or gains in these areas tell us a great deal about a program's overall effectiveness, interpreting the increases is a more difficult task.

Value judgements regarding placements should be viewed with caution. For example, evidence does suggest that pull-out programs lack both efficiency and efficacy (Gartner & Lipsky, 1987; Will, 1986). However, comparing a poor pull-out program with an equally poor inclusive setting does little to further the knowledge base. It is also becoming increasingly clear that value judgements about inclusive placements must also be viewed with caution. Although inclusion has been accepted by a value by many advocates, Mercer (1994) reminds us that inclusion must be conducted responsibly. By accepting one value (i.e., placement in the general education classroom), we do not, by de facto, relinquish all others such as time on task, teacher problem solving, collaboration, and other best practices. Researchers must responsibly describe classroom environments and educational practices to facilitate understanding and replication by the reader. In as much as inclusion must be carried out responsibly, so too should the research and the reporting of the results of inclusive practices be reported responsibly.

What We Expect Investigations of Inclusion to Tell Us:

1. Achievement gains;
2. Social skill growth;
3. Opportunities for social interaction;
4. Attendance;
5. Time on Task;
6. Extent to which practices are embedded in routines (co-teaching, collaboration, cooperative learning);
7. Fidelity of practices (extent to which practices conform to guidelines);
8. Quality of IEPs (active vs. passive focus, measurability, generalization, mastery, focus on priorities reflected in "Present Levels," goals/objectives achieved, appropriateness of content);
9. Longitudinal focus or potential impact on longer term outcomes such as social networks or contributing citizens;
10. Extent of parent participation in planning, activities, routines.

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### Documenting Your Inclusion Efforts

\*Indicates results are better than (+), equal to (=), or worse than (-) the non-inclusive setting.

Exceptionality	Measure/Results*	Reference
LD MIMR BD Typical Peers (TP)	Individual Achievement Tests (+) Group Achievement Tests (=)	Affleck, Madge, Adams, & Lowenbraun (1988). Integrated classroom versus resource model: Academic viability and effectiveness. <i>Exceptional Children</i> , 54, 339-348.
LD LD TP - LD  TP - LD  TP - LD	CBA, reading (+) CBA, writing (=) Overall attitude toward school, motivation, self-concept (=)  Parent rating of child's: sense of belonging, interactions with others, confidence, pride in work (=)  Teacher rating of child's: same as above (=) (TP higher on all but 6 items)	Banerji & Dailey (1995). A study of the effects of an inclusion model on students with specific learning disabilities. <i>Journal of Learning Disabilities</i> , 28, 511-522.
TP and Mild Disabilities	Group Achievement Tests (=) (TP higher in math)	Bear & Proctor (1990). Impact of a full-time integrated program on the achievement of nonhandicapped and mildly handicapped children. <i>Exceptionality</i> , 1, 227-238.
LD E/BD OHI	IEP Goal completion (+/=) Grades (+) Absentee Rates (-) Disciplinary Reports (-) Drop Out Rates (-) Popularity (-) Self-Esteem (+) Satisfaction of parents, teachers (+) Achievement increase (+)	Delvin, Kozol, Merchant, & Morris (1994). <i>Perspectives and outcome data for learning disabled students in the cooperative teaching model</i> . Paper presented at the Learning Disabilities Association Conference, Washington, D.C.
BD	Individual Achievement Tests (+) G.P.A. (+) Absentee Rate (-) Teacher ratings: attentive, working hard, adjustment (+)	Meadows, Neel, Scott, & Parker (1994). Academic performance, social competence, and mainstream accommodations: A look at mainstreamed and nonmainstreamed students with serious behavioral disorders. <i>Behavioral Disorders</i> , 19, 170-180.

Moderately MR	Adaptive Behavior (=) Math Achievement Tests (=) Report Cards (=)	Saint-Laurent, & Lessard (1991). Comparison of three educational programs for students with moderate mental retardation integrated in regular schools: Preliminary results. <i>Education and Training in Mental Retardation</i> , 26, 370-380.
ID	CBA reading (=) Time on Task (+)	Zigmond & Baker (1990). Mainstream experiences for learning disabled students (Project MELD): Preliminary report. <i>Exceptional children</i> , 57, 176-185.
LD (case study)	Engaged time in reading (+) CBA reading (+)	Zigmond & Baker (1994). Is the mainstream a more appropriate educational setting for Randy? A case study of one student with learning disabilities. <i>Learning Disabilities Research &amp; Practice</i> , 9, 108-117.
Severe Disabilities	IEP Quality (+) Appropriate Curricular Content (=) Engaged Time (on task) (+) Integrated Activities (+) Affective Demeanor (=) Social interactions (+)	Hunt, Farron-Davis, Beckstead, Curtis, & Goetz (1994). Evaluating the effects of placement of students with severe disabilities in general education versus special classes. <i>JASH</i> , 19(3), 200-214.
Severe Disabilities	In-school Contacts (+) Out-of-school contacts (+)	Kennedy & Irkonen (1994). Some effect of regular class participation on the social contacts and social networks of high school students with severe disabilities. <i>JASH</i> , 19(1), 1-10.
Severe Disabilities	Motor Skill Acquisition (+) Communication Skill Acquisition (+)	Hunt, Staub, Alwell, & Goetz (1994). Achievement by all students within the context of cooperative learning groups. <i>JASH</i> , 19(4), 290-301.
TP	Math skills (=)	
TP	Awareness of exceptionalities (+) Kind, supportive, protective (+) More "humanized" (+) Lack of achievement drop	National Center on Educational Restructuring and Inclusion. (1995, Fall). <i>NCERI Bulletin</i> , 2(2). The City University of New York: Author.
SpEd (all)	Known as individuals Independence (+) Self-esteem (+) IEP objectives met	

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## Brainstorming

### Rationale:

*Brainstorming, with its use of deferred judgement*, implicitly creates a receptive, creative atmosphere and teaches good creative attitudes: receptiveness to and appreciation for novel... ideas. Brainstorming is an effective procedure that may be used in the classroom for (1) teaching brainstorming as an effective creative thinking technique, (2) practicing creative thinking (thus strengthening attitudes and abilities), and/or (3) solving some pressing school problems.

(Davis, G.A., & Rimm, S.B. (1989). *Education of the gifted and talented* (2nd Ed). Englewood Cliffs, NJ: Prentice Hall) (p. 233)

### Encourages:

- Action orientation
- Divergence--Open atmosphere
- Equity of participation (no "gender/background" restrictions)
- Fluency of ideas
- Group effort
- No self-censoring; thus no self-limiting
- Openness to experiences
- Productivity
- Self esteem

### Teachers who use increase in:

- ⇒ Empathy
- ⇒ Being open to students
- ⇒ Listening intently to student responses and idea
- ⇒ Reinforcing students
- ⇒ Allowing students to experiment

(Piirto, J. (1994). *Talented children and adults*. New York: Merrill/Macmillan) (p. 165)

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## **Using Creative Problem Solving to Define and Measure Inclusion**

**Purpose:** To demonstrate the use of several converging and diverging tools designed to actively involve participants.

**Rationale:** Creative Problem Solving can be used to develop a list of dependent variables that will inform us of the progress of our efforts in establishing inclusive practices.

**Overview:** This approach is useful when trying to generate ideas and involve the interested parties. It works best when 4 to 8 people participate in a group. Larger groups can form two or more simultaneous groups. This particular approach is easily modified and does not focus on fundamental change, but rather improvements.

**Procedure:**

**Step 1:** Develop a problem statement for discussion.

**Description:** Oftentimes through discussion and probing teachers, parents and administrators are able to identify topics or processes they want to clarify or investigate.

**Example:** How can a school team know when they are making progress with students, teachers, or families when they have moved to an inclusive educational model?

**Today's Task Statement:** Imagine, if you can, that you are in the planning or implementation phases for inclusion. You want to know if this is a good thing for students--those with disabilities and those without. You have heard concerns voiced by teachers and parents and you want to be show that things are going well. In short, you want some proof!!

**Step 2: Background--**Spend a few moments and record the events that have ensued thus far in your school's efforts toward inclusion. Who was involved? What was done or not done? How was planning accomplished (if at all)? What outside assistance was sought or available? Which students and which teachers were targeted? What new terms were invented to describe what was happening? How were decisions made? Take notes on these issues and review them with others.

**Idea Phrase:** We see ourselves developing the criteria by which we will measure our progress toward inclusion. We want to know it all--the good, the bad and the ugly!

**Desired Outcome:** To decide what information we can collect to inform our efforts.

**Step 3: Brainstorming--**Each participant with a stake in the outcome should have an opportunity for input during the Brainstorming phase. Each participant is provided with post-it notes and a pen. The phrase "In what ways might we measure our efforts toward inclusion?" is placed on a

large poster sheet. Participants are requested both to write (in legible form) their ideas and to say their ideas aloud as they hand them to the facilitator.

**Guidelines:**

- Defer judgement on **any** and **all** ideas.
- Strive for a large quantity of ideas (think of as many as you can).
- Connect ideas to create new ideas (build on another's idea).
- Be outrageous--anything goes during brainstorming.
- Keep the pace snappy.

If ideas run dry too quickly or lack pizzazz, the facilitator can use an idea checklist or provide a visual prompt that stimulates a forcing of connections between the prompt and the problem statement (e.g., How is measuring inclusion like driving on the interstate highway?)

**Step 4: Sorting ideas**--The objective is to sort, screen, combine and select the most promising ideas. Participants are asked to identify ideas for further work or identify ideas that are intriguing or promising. Each participant is given 1-2 sticky dots with which to make a selection of 1-2 ideas. Each participant places their dots on the post-it with the idea of their choice.

**Guidelines:**

- Use positive judgement in selecting ideas.
- Consider the plan.
- Consider novelty.
- Keep the problem firmly in mind.

**Step 5: Closure**--The facilitator moves the dotted (selected) ideas to a separate chart and reviews the ideas with the participants. From this point several types of outcomes may be appropriate. A plan for what will be done by whom by what date can be developed; a recording of the hot ideas can be developed; the ideas can be ranked, prioritized, compared, categorized or evaluated.

The Problem Solving Process can (and should) be fun! It helps get new ideas out for discussion and helps all the participants engage in an organized approach. It does not solve all problems but it can be a very useful approach.

Ideas generated at the April 4, 1996, presentation in Orlando, FL.

*In what ways might we measure our efforts toward inclusion?*

**SELECTED BY THE GROUP**

- extent to which students' objectives on IEPs are being met (11)
- self-concept scales (11)
- measure IEP objective success (6)
- increase of teacher use of strategies for all students, eg., co-op teaching, hands on (6)
- improvement in academic skills (5)
- check to see if the LRE on the IEPs show lesser restriction over time (4)
- informal portfolio assessments (4)
- change in teaching strategies of co-teachers (4)
- increase in collaboration efforts between general and special educators, measure time spent (3)
- acceptance by classmates (2)
- self-esteem (2)
- pre- & post-tests on self-esteem for all kids
- teacher satisfaction/teacher sense of competency survey (2)
- videotape inclusive classrooms several times throughout school year, focus on social interactions (1)
- survey staff, students, parents (1)
- level of awareness (of inclusion) of school employees, school board members (1)
- collaboration efforts of general special educators increased over time (3)
- exit from special education (1)
- post-high school or exit studies of independent living/vocational skills(1)
- teacher attitude survey (1)
- general education student achievement scores (1)
- increase in cross-curricular involvement in planning/projects (1)
- homework completion (1)
- times that nondisabled student spend with disabled students outside of school, ie., going to mall, movies, playing at friends' homes (1)

**COMPLETE LIST**

**Students--Social**

- sociograms
- sociograms to determine social interactions
- increase in friendships
- friendship development
- friendships
- responses in student journal-student journal entries

- observation/survey by teacher
- self-esteem
- increase in positive interpersonal relationships
- body language
- student interviews
- student questionnaires
- student attitude survey

**Teacher-related**

- staff happiness
- staff discussion
- teacher communication
- teacher/student rapport
- attendance at staff development for inclusive programs
- comparison data on burnout rate of special ed teachers
- staff turn-over, burnout
- monitor amount time general ed teachers spend in accommodation of students
- measure number of hours in planning/collaboration
- collaboration between classroom teacher & special ed teacher
- increase in collaboration among teachers/among students, survey
- recognition of special ed teacher by student body
- positive vs. negative: teacher informal discussions (lounge, etc.)

**Parent-related**

- acceptance by parents, public
- increase in positive interactions with parents
- awareness and acceptance of disabilities by classmates increased, survey
- student, teacher, parent surveys
- questionnaires staff, parents, students
- at parent conference time teachers interview parents re satisfaction
- survey parents of nondisabled peers
- parent surveys

**Community-related**

- survey agencies, advocacy groups, community groups
- comparison of local media reports from pre- and post-inclusion years

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Program-related

- disciplines referrals
- behavior problems
- fewer SpEd referrals
- nature of special ed referral reasons
- referrals to special ed, guidance, discipline
- behavior management plans--increase in appropriate behaviors
- monitor number of referrals to special ed
- demographic information comparison (number of kids in self-contained in '93 vs. '96)
- track number of interventions, number of successes
- reduction in costs through maximizing use of resources
- continued funding levels for support services
- reduction in due process proceedings
- reduction in parent complaints
- reduction in parent complaints
- reduction in somatic complaints
- continuum of services
- environmental survey (TIES II)
- eco-biological observations

Academic-related

- language acquisition
- by percentage of IEP goals/objectives attained-
- rate IEP goals/objectives attained
- monitor progress of IEP goals, academic and social
- IEP data sheet: documents when goal is worked on
- test scores
- Honor Roll--times special education students make honor roll
- number of "normal" kids on honor roll
- grades
- completion of assignments
- homework, classwork completion
- achievement
- increase in student classroom work
- task completion
- risk taking by special ed students in course selections for the next year

Attendance

- attendance increased
- attendance
- attendance
- attendance
- attendance improvement or decrease
- drop out rate
- drop rates
- decrease in drop outs

- student crime statistics
- decrease in IEP hours

Level of Participation

- amount of participation
- cooperative learning (observation between students, interactions)
- student motivation in classes
- increase/decrease in class participation
- involvement in cultural arts events
- observe class interaction
- willingness to ask questions in the group
- extra-curricular involvement
- monitor service delivery patterns of students
- change in administrators' attitudes

Ideas generated at the March 8, 1996, presentation in Indianapolis, IN.

*In what ways might we measure our efforts toward inclusion?*

<p><b>SELECTED BY THE GROUP</b>  student success in general ed class (9)  decrease in referrals as general teachers learn from spec Ed teacher how to modify (4)  general ed teachers making modifications on their own (4)  collaboration between special ed and general ed staff (3)  comfort level of the teachers (3)  students' self-esteem (3)  entire school is participating in inclusion (2)  types of IEP goals/objectives (1)  how students feel or what they express about their experiences (1)  number of trips to the principal's office (1)</p> <p><b>COMPLETE LIST</b>  administrator's opinion  open communication  friendships made  community involvement  questions asked  how they dress  observations of relationships of special ed and gen ed students  student attitude changes  communication increases  number of modifications being done to the gen ed curriculum  interest/questions from peers in education  "test results"--the numbers  use a combination of the following:  -number of students in gen ed;  -reaction of students, parents, staff to the program  -successes of students  special ed teacher attrition rates  number of smiles  friendships developed  parent/family response to inclusion  social interaction (between spec ed and reg ed)  peer tutoring  number of IEP conferences  general education teacher questionnaires  ability of students to perform "functional life skills"  curriculum mastery  number of teacher complaints  name-calling (esp. reg ed dissing sp ed)  number of students who are included in gen ed</p>	<p>lack of presence of complaints from parents  student's success  the student is able to mention that there are parts of the school day the he/she likes  nurse referrals  "collisions" between students (fights, arguments, etc.)  learning from our mistakes  number of conflicts involving special needs students  students in sp ed and gen ed sitting together at lunch  number of trips to the bathroom  curriculum match or mismatch between spec ed and gen ed  number of teacher referrals  number of journal articles about inclusion in teachers' lounge  how many wrong turns, accidents, traffic jams, pile-ups, fatalities,  amount of communication between teachers</p>
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